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In search for rules that secure gains from cooperation: The heuristic value of social dilemmas for normative institutional economics

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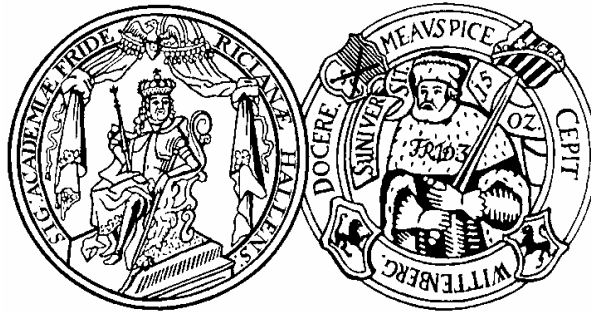
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Discussionspaper No. 05-6

Martin Petrick and Ingo Pies

**In Search for Rules that Secure Gains from
Cooperation: The Heuristic Value of Social
Dilemmas for Normative Institutional Economics**

Edited by
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In Search for Rules that Secure Gains from Cooperation: The Heuristic Value of Social Dilemmas for Normative Institutional Economics

by Martin Petrick and Ingo Pies *

We ask how normative statements are possible within an economic theory framework that recognises the importance of institutional arrangements. Instead of applying established outcome-oriented criteria of social welfare, we examine whether the rules of economic interaction allow the acquisition of gains from cooperation. We suggest to reconstruct any interaction as an existing or repealed social dilemma. This approach helps to identify common rule interests which create room for improvement of all parties involved, and to suggest desirable institutional reforms. Our policy applications include credit markets in developing countries and the unemployment problem in Europe. (JEL: D02, D63, D74)

1. Introduction

Stable preferences, rational choice, and equilibrium outcomes are the basic theoretical concepts of neoclassical economics.¹ When coupled with modifications in assumptions concerning asymmetric information, varying property rights schemes, or positive transaction costs, this neoclassical approach has proven sufficiently flexible to provide explanations for such diverse phenomena as the existence of complex contractual regulations on markets, the hierarchical organisation of firms, or the functioning of the state.² However, together with an extension of the domain of positive microeconomic analysis, the question has emerged whether the traditional *normative* benchmark of this framework can be maintained. By this normative benchmark we mean the neoclassical efficiency criterion, according to which the operation of a set of competitive markets yields, under certain conditions, a Pareto-optimal equilibrium outcome that maximises the welfare of society. One solution, most evident in the formal literature on asymmetric information³, is to uncritically transfer the traditional criterion to the new set of assumptions. Since the traditional ideal cannot be attained under the new assumptions, the optimal result is then labelled a ‘constrained Pareto optimum’.

DEMSETZ⁴ criticised this comparison of existing institutions with an ideal norm as a “nirvana approach” and called for a “comparative institution approach”, where the relevant choice is between alternative real institutional arrangements. The latter alternative has been advocated by less formally inclined authors, such as WILLIAMSON.⁵ However, this literature largely focuses on positive analysis and has not developed a systematic normative framework informing about the kind of arrangements that are socially desirable. FURUBOTN AND RICHTER⁶ hence suggest that a satisfactory normative framework for evaluating economic institutions is currently not in sight: “... one consequence of the movement into the territory of the New Institutional Economics is that we are left without a standard that can be described

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¹ see Eggertsson (1990; p. 5).

² see the comprehensive overview in: Furubotn and Richter (1997).

³ e.g. as presented in: Gravelle and Rees (1992; chapter 22).

⁴ Demsetz (1969; p. 1).

⁵ Williamson (1996).

⁶ Furubotn and Richter (1997; p. 477).

as comprehensive in its applicability and rigorous in its formulation". An implication of this lacking normative framework is that institutional economists have difficulties in contributing constructively to public policy debates. EGGERTSSON ⁷ notes: "The new institutionalism, so far, has spent most of its energy explaining social outcomes, both analyzing the effects of alternative institutional arrangements and attempting to explain institutional change. ... [B]ut the literature seldom offers lessons for government policy, except perhaps implicitly."

In this paper we challenge the view that institutional economists are left without a normative standard. We build upon insights of *constitutional economics*, an alternative to welfare theoretic reasoning that has not been followed by the mainstream of institutional economists.⁸ Central to this approach is a distinction between actions on the one hand and the constitution that guides action on the other. Within the constitution, actions are solely determined by individually optimising behaviour. The normative question is posed whether there are alternative, preferable constitutional rules that find the *consent* of the involved agents. Due to its focus on very general rules and its emphasis on the assent of each individual citizen, the approach has a strong status-quo bias. Whereas the welfare economic standard tends to be utopian, constitutional economics might be criticised for being overly conservative. We nevertheless are convinced that its democratically motivated focus on individual incentive compatibility of arrangements and its emphasis on comparing realistic policy alternatives offer a number of valuable insights that can inform a normative analysis of sub-constitutional institutional arrangements.

We propose a theoretical framework that acknowledges the 'frictions' present in the institutionalist world-view without abandoning all normative aims. The central notion of our approach is a *social dilemma*, such as the prisoners' dilemma widely analysed in game theory. However, compared to game-theoretic analysis which focuses on optimal strategies for individual agents, the novelty of our approach is to look for institutional arrangements that are desirable for all players. We use the social dilemma as a heuristic to search for institutions *that secure gains from cooperation*. This normative institutional perspective is based on the elementary insight that gains from cooperation at the same time *legitimise* institutional reform and facilitate its *implementation*. The new perspective has a number of distinct analytical advantages: Using the social dilemma as a theoretical a-priori guarantees that the incentives of all involved individuals are systematically taken into account and that reform proposals are focusing on realistic alternatives. We therefore propose to reconstruct *any* economic interaction as an existing or repealed social dilemma. In this interpretation, the social dilemma represents a parsimonious theoretical framework that allows to identify the normative implications of established institutional-economic arguments. Furthermore, it also offers new perspectives for institutional economists to participate in public policy debates.

The plan of the paper is as follows. In Section 2 we briefly discuss the normative approach of constitutional economics. Drawing on the latter, we introduce our own proposal for a social dilemma heuristic in Section 3. We move on to discuss the strengths and limitations of this approach and its implications for economic policy advice. Section 4 contains two illustrative applications. Section 5 concludes.

⁷ Eggertsson (1998; p. 336).

⁸ Buchanan (1987); Pies (1996).

2. Comparative Normative Analysis in Constitutional Economics

BUCHANAN⁹ opens a line of criticism of the efficiency notion of neoclassical economics on the ground that it employs an inappropriate conception of the policy process and applies an idealised evaluation criterion disconnected from the wants of individual people. In this and subsequent writings, Buchanan first calls into question the assumption of a benevolent dictator which is implicit in much of the early welfare economic literature. He regards this as a violation of *consistency* in the behavioural assumptions of economic vis-à-vis political analysis. Second, he criticises the *normative foundation* of welfare economics. The comparison of a theoretical ideal with reality is supposed to miss the relevant alternatives, and social welfare maximisation as a guide for public policy is rejected as undemocratic because it ignores the assent of the actually affected people. Third, he claims that due to a lacking consent orientation, the problem of *implementation* of policy measures is unresolved in welfare economics.

BUCHANAN AND TULLOCK¹⁰ pioneered the rational choice approach to politics and thus tried to solve the problem of consistency. The trajectory was to extend ‘private choice’ to ‘public choice’ and to put homo economicus at work not only in private but also in political, and thus ‘non-market’, decision-making. However, beginning in the mid 1970s, Buchanan (self-) critically realised that the public choice approach to work out the consistency problem made it more difficult to tackle the normativity and implementation problems: The welfare economics of the private sector had been extended to a welfare economics of the public sector, and market failure as a deviation from the efficiency ideal was now accompanied and reinforced by political failure. Neither economic nor political real-world actors were regarded as being capable of achieving a socially optimal allocation of resources. As a consequence, the normative orientation function of the efficiency criterion was entirely lost. BUCHANAN¹¹ concluded that a strategic re-orientation of research was necessary to cope with this dilemma:

“We now know that under some conditions ‘markets fail’ when evaluated against idealized criteria. ... We also know that ‘politics fails’ when evaluated by the same criteria. Any positive analysis that purports to be of use in an ultimate normative judgment must reflect an informed comparison of the working properties of alternative sets of rules or constraints. This analysis is the domain of Constitutional Economics.”

Constitutional economics changes the neoclassical approach to normativity in two fundamental ways: First, it aims at a comparison of *realistic* alternative institutional arrangements, and second it uses the *consensus* of citizens as a criterion to choose between alternatives. This follows from the idea that both the economic and the political domain shall be analysed in an analogous and thus consistent manner, however no longer under the ‘maximisation paradigm’ of welfare economics but under an ‘exchange paradigm’ of what is called the ‘contractarian approach’.¹² The market is conceptualised not as an *allocation mechanism* to maximise social welfare, but as a *coordination process* of individual maximisation strategies. It is then useful to distinguish the rules *of* and the moves *in* the game of market exchange. Whereas market participants compete over scarce resources in their actions, they have a common interest in a market order that enables mutually beneficial trade. The political sphere is understood in the same two-stage structure: political entrepreneurs seek their self-interest in the polity system, but there is a common interest in the constitutional

⁹ Buchanan (1959).

¹⁰ Buchanan and Tullock (1962).

¹¹ Buchanan (1987; p. 585).

¹² Brennan and Buchanan (1985; chapter 2).

rules that make up the political order and shape political competition. Both in the market and the polity an exchange or contract of mutual agreement *to* the rules is required before mutually advantageous trade *within* the rules can take place. In this analytical framework, the relevant choice is between different rules, not outcomes, because under currently given rules outcomes are pre-determined by rational behaviour. Moreover, the relevant normative criterion is the consent of the involved actors, and not an abstract social welfare. Accordingly, the task of the economist is to suggest improvements in rules which can be assented by the citizens. “Since ‘social’ values do not exist apart from individual values in a free society, consensus or unanimity (mutuality of gain) is the only test which can insure that a change is beneficial.”¹³

In line with these conceptual modifications of the neoclassical approach, also the basic normative terms are redefined. ‘Efficiency’ is no longer regarded as an objective, external measure of social desirability, but is completely based on the subjective values of the affected individuals, and hence transformed into a process-internal criterion. It follows that “efficiency, as an attribute, is necessarily present when there is a demonstrated absence of possible agreed-on changes.”¹⁴ Closely related, the Pareto criterion is now applied to alternative sets of (attainable) rules. It is thus useful to speak of Pareto-*superior* rules instead of Pareto-*optimal* outcomes.

Against this background, the question emerges whether the proposals for improved rules can indeed be implemented. The *constitutional* orientation of the ‘contractarian approach’ is aiming at precisely this point. First, as explained previously, the focus on rules addresses the interest of all participants in the *process* of mutual trade and not primarily in the distribution of outcomes. Because the more abstract level of rules stresses the general over the particular interest, it tends to assure the assent of real-world actors. Especially the earlier constitutional economics literature pushed this point to the extreme by limiting its domain to the *highest possible level* of societal rules, the constitution (*nomen est omen*). At this most abstract level, it is reasonable to assume that particularised interests of individuals are completely subordinated to the general interest and that this ‘veil of uncertainty’ enables full individual consent to the constitutional rules.¹⁵

3. The Social Dilemma Heuristic

Given the positive insights of institutional economics and the normative concept of constitutional economics, we now attempt to develop the nucleus of a *normative institutional economics* that exploits the strengths of both approaches but avoids their flaws. In the following, we subject the social dilemma to an institutional economics interpretation and then show how it can be used as a policy-oriented heuristic for both positive and normative analysis of sub-constitutional institutions.

3.1 The Social Dilemma in an Institutional Economics Perspective

We define a social dilemma as a situation in which, as a result of an unresolved conflict, actors as a group do not make full use of their opportunities. Technically speaking, it is a

¹³ Buchanan (1959; p. 137).

¹⁴ Buchanan (1975a; p. 227).

¹⁵ Buchanan and Tullock (1962); Buchanan (1975b).

situation of human interaction in which the equilibrium outcome is Pareto-inferior. Actors in the social dilemma hence remain in a situation of *collective self-damage*.¹⁶

Situational incentives, i.e. the rules that channel individual moves, can be modified in such a way that social dilemmas are overcome. This potential to shape situations of strategic conflict by way of institutional reform makes social dilemmas and their game-theoretic analysis the central building block for our approach. First, by way of the familiar positive analysis, the functioning of institutional arrangements can be studied and reconstructed as solution of strategic interaction problems. Second, by way of normative analysis, common interests of conflicting parties can be identified and be used to evaluate these arrangements. Finally, as will be shown in Section 0, an analysis based on the social dilemma heuristic can be used to generate arguments which, from a methodological point of view, are compatible with Max Weber's notion of freedom from value ('Wertfreiheit') and at the same time, from a political point of view, are compatible with democracy.

In comparison to traditional welfare economic reasoning, an analysis in terms of social dilemmas puts emphasis on the following:

- Rather than focusing on *allocation* outcomes that result from the parametric reaction functions of individuals, the *interaction* of behaviour is emphasised. The simultaneous existence of both common and conflicting interests is made visible. Furthermore, it becomes clear that actors have only partial control over outcomes, which can be described as non-intended consequences of intentional behaviour. Unexploited mutual advantage can therefore only be realised by way of better rules.
- The exogenous variables in this model are the individual pay-offs, which are hence the control variables for policy action. However, policy is no longer guided by the desire to attain the ideal of a perfect market. It rather aims at the *establishment of an (attainable) institutional arrangement* that allows the realisation of mutual gains. A comparison with an abstract first-best world is therefore avoided.
- The opportunity of mutual improvement creates a *basis for consensus* and a common interest in the according rules. This means, however, that all parties involved must in fact gain from an institutional alternative and can rely on the rule-abiding behaviour of all others. This is the precondition for individual assent, and thus a key difference to the welfare economic approach.

The social dilemma hence captures the basic problem of social order: How can potential gains from cooperation be realised by way of institutional reform? The fundamental criterion for the normative evaluation of institutional arrangements inherent to this structure is that *a desirable institution provides all involved actors with incentives that allow the realisation of mutual gains*. These gains at the same time *legitimise* institutional reform and facilitate its *implementation*. A 'good' institution hence brings to bear the interests of all affected individuals, who are the only source of values in this approach.

¹⁶ The classical case of a social dilemma is the equilibrium outcome of pure strategies in the one-shot prisoners' dilemma (Dawes, 1980). However, we are not primarily interested in a specific game, but generally in situations that lead to a Pareto-dominated equilibrium outcome. This can arise in various contexts. For example, in the one-shot 'assurance' game, one of the two equilibria is Pareto dominated. In indefinitely repeated games, the equilibrium outcome of frequently used games such as 'chicken' or 'battle of the sexes' may be Pareto-inferior as well (Binmore, 1994; pp. 113-117). The structure of the particular game is thus of secondary importance. Due to its popularity and simplicity, we continue to take the one-shot prisoners' dilemma as an illustrating example in the following.

The choice between alternative sets of rules and the consensus of affected parties as the relevant normative criterion are emphasised by both the social dilemma heuristic and the constitutional economics approach. Compared to the latter, we stress the following advantages of our approach:

- The social dilemma heuristic provides an explicit formal framework concerning the *specific alternative that can be agreed upon by the involved parties*. In this sense, the above-mentioned problems of normativity and implementation are solved simultaneously. It is not necessary to ensure consent by limiting the choice of rules to the exchange of rights at the abstract level of the constitution, where a ‘veil of uncertainty’ prevents exploitation by particular interest groups or the most powerful.¹⁷ In the social dilemma, the situational structure is such that achieving the institutional alternative is beneficial to *all* participants. Therefore, all involved players have a joint interest to change the rules.
- Using the formal framework of modern game theory, the relevant alternatives and the strategic interaction of the involved parties can be made transparent. Our approach therefore allows a stronger formalisation of constitutional economics arguments. On the other hand, it emphasises the normative aspects of institutional design, which are often neglected by traditional game theorists.

3.2 The Methodological Status of the Social Dilemma Heuristic

The aim of our approach to normative institutional economics is to provide a link between positive reconstruction, normative evaluation, and public policy advice. This ambitious task is subject to a number of methodological constraints, among which we already mentioned freedom from value and compatibility with democratic principles. Moreover, it is useful to strip the approach of dispensable aspects and to focus on the fundamental problem structure that cannot be reduced further. In order to extract the *indispensable* ingredients of the structure, a problem-oriented, pragmatic reduction of complexity is required.¹⁸ In capturing the essence of the problem under investigation, the structure should be precise and simple. Given our intention to use the approach (also) as an argumentation scheme for public discourse, this latter aspect is of particular importance. On the other hand, the structure should be sufficiently flexible to allow a methodologically controlled differentiation and application to empirical phenomena. Based on these considerations, we can formulate the fundamental hypothesis of our approach as follows:

For a normative analysis that aims to be free from arbitrary value judgements and compatible with the democratic principle of normative individualism, it is useful to reconstruct any economic interaction in terms of social dilemmas.

Because the dilemma structure captures the essential tension between common and conflicting interests in institutions in a precise and simple way, we propose that a normative analysis of institutions should begin with a *search for dilemma structures*. The applicability of our approach is conditional on the success of such a search. In this sense the methodological status of the social dilemma can be characterised as a *heuristic* of normative institutional economics: It provides guidance concerning the search for solutions to the problem of what

¹⁷ Buchanan (1975b).

¹⁸ Suchanek (1994).

the characteristics of a ‘good’ institution are and how desirable institutional reform could be accomplished.¹⁹

There is a widespread consensus in the social science literature that social dilemmas, in particular the prisoners’ dilemma, are indeed a ubiquitous phenomenon. ELSTER²⁰ speaks of the “omnipresence” of prisoners’ dilemmas in social life. In a similar vein, NALEBUFF²¹ notes that “what makes the prisoners’ dilemma so intriguing is its apparent universal applicability to business, politics, and everyday life.” TULLOCK²² goes one step further in asserting that “it is likely that almost all interactions between human beings can be drawn as prisoners’ dilemmas.” We take these views as underpinning for our proposal to systematically search for dilemma structures in *all* human interactions.

There are two natural objections to this suggestion, which we discuss in the following to further clarify our approach: (1) not all interaction is characterised by mutual defection, which is the equilibrium outcome of a social dilemma; and (2) not always is cooperation in social dilemma situations a desirable outcome.

Ad (1): Of course, not all *observed* interaction is characterised by mutual defection. In particular, voluntary market exchange is one of the prime examples of mutually beneficial cooperation, and hence gains from trade. But this does not invalidate our argument: We fully agree that *there are* institutional arrangements in the real world that overcome dilemma structures and that allow to gain from cooperation. Governance and control of social dilemma situations is the very reason for the establishment of institutions, as has been shown by various contributions of the institutional economics literature (see in particular the discussion in Section 0). What we emphasise is that the underlying dilemma structure of interaction *keeps on living* below the surface of the existing institution and remains latently present. Once the institution breaks down, the entire set of problems related to the dilemma comes to life again; one could say it is permanently “lying in wait”²³. ORDESHOOK²⁴ puts this insight as follows:

“Often we might not find prisoners’ dilemmas in a specific situation or institution because certain rules or traditions evolve to avoid them. But this absence of dilemmas does not make an understanding of their logic less relevant, because the only way to understand why such rules and traditions persist is to discern the dilemmas that arise without them.”

There are various reasons for such a revival due to the vanishing impact of formal or informal rules and institutions²⁵: Conventions, values, and religious norms may erode; existing control-systems may become ineffective as a result of imperfect enforcement, evasive activities, revolution, or poor government; individuals may gain new scope of action due to technological or social innovations. Instantaneously, dilemma structures liven up again, and social interaction undergoes a phase of more or less instability until a new institutional

¹⁹ We use the term heuristic in a way similar to Lakatos’ (1970) ‘positive heuristic’ as a set of suggestions to direct and develop research further and to provide guidance on how to process ‘anomalies’, i.e. facts that at first glance seem to be inconsistent with the theory or model within the positive heuristic. “The positive heuristic guides researchers toward the right questions to ask and the best tools to use in answering them.” Hands (1993; p. 114).

²⁰ Elster (1989; p. 29).

²¹ Nalebuff (1998; p. 89).

²² Tullock (1985; p. 1079).

²³ Homann and Suchanek, 2005; p. 384).

²⁴ Ordeshook (1986; p. 235).

²⁵ Homann and Suchanek (2005).

arrangement is invented. We agree with Homann and Suchanek that in one way or the other all prevalent problems of the real-world – poverty, hunger, migration, environmental damage, unemployment – can usefully be interpreted in terms of dilemma structures, for which so far no appropriate solutions that allow a move to the Pareto-superior equilibrium have been found and implemented.

In particular, voluntary market exchange crucially depends on the establishment and enforcement of basic property rights; otherwise the individuals find themselves in a world of anarchy. To overcome this prime example of a social dilemma is thus the necessary condition for enabling the socially beneficial working of the ‘invisible hand’.²⁶ However, the smooth functioning of competitive markets is in no way guaranteed. In fact, market *failures* have been central to economic analysis for decades. After an extensive survey of the sources of these ‘failures’, namely public goods, externalities, increasing returns to scale, incomplete information, and unemployment, INMAN²⁷ concludes (emphasis added):

“A careful analysis of agent behavior in market failure problems reveals non-cooperation to be the dominant strategy of each self-seeking, utility-maximizing player. The generic form of market failures is the Prisoner’s Dilemma game repeated a finite number of times between many strangers. The equilibrium strategy in this game is to play non-cooperatively.”

The central role of dilemma structures for human interaction can be demonstrated more systematically by referring to a classification due to SCHELLING.²⁸ He identifies two limiting cases of interdependent decisions: a *pure conflict* situation with a *fixed sum* of outcomes as one extreme and a *pure coordination* or common-interest situation with *fixed proportions* of outcomes as the other extreme. Represented on a two-dimensional diagram where the outcomes for the players are given by the two coordinates of a point, the points of the pure conflict display a decreasing line, whereas the points of pure coordination display an increasing line. All *intermediate* situations are characterised by *both common and conflicting interests* (mixed motive games). We seek to establish that *the simultaneous existence of common and conflicting interest is the typical case of human interaction*.²⁹ This means that at least one pair of points denotes a negative slope and at least one pair a positive slope. If one treats the absence of institutional regulation as the systematic starting point for analysis³⁰, conflicting interests dominate the common interests, as illustrated by the prisoners’ dilemma (Figure 1 (a)). If, due to specific situational circumstances, common interests are completely eliminated, the pure conflict case obtains (Figure 1 (c)). If, on the other hand, the common interests are step-wise strengthened, the prisoners’ dilemma can be transformed into a situation where cooperative behaviour is the dominant strategy, i.e. the prisoners’ dilemma is repealed (Figure 1 (b)). In the extreme case, conflicting interests are entirely absent, and a pure coordination game results (Figure 1 (d)).

²⁶ Tullock, (1985).

²⁷ Inman (1987; p. 672).

²⁸ Schelling (1960; pp. 88-89).

²⁹ According to Rawls (1999; p. 109), human interaction in society “is typically marked by a conflict as well as an identity of interests. There is an identity of interests since social cooperation makes possible a better life for all than any would have if each were to try to live solely by his own efforts. There is a conflict of interests since men are not indifferent as to how the greater benefits produced by their collaboration are distributed, for in order to pursue their ends they each prefer a larger to a lesser share.”

³⁰ Buchanan (1975b).

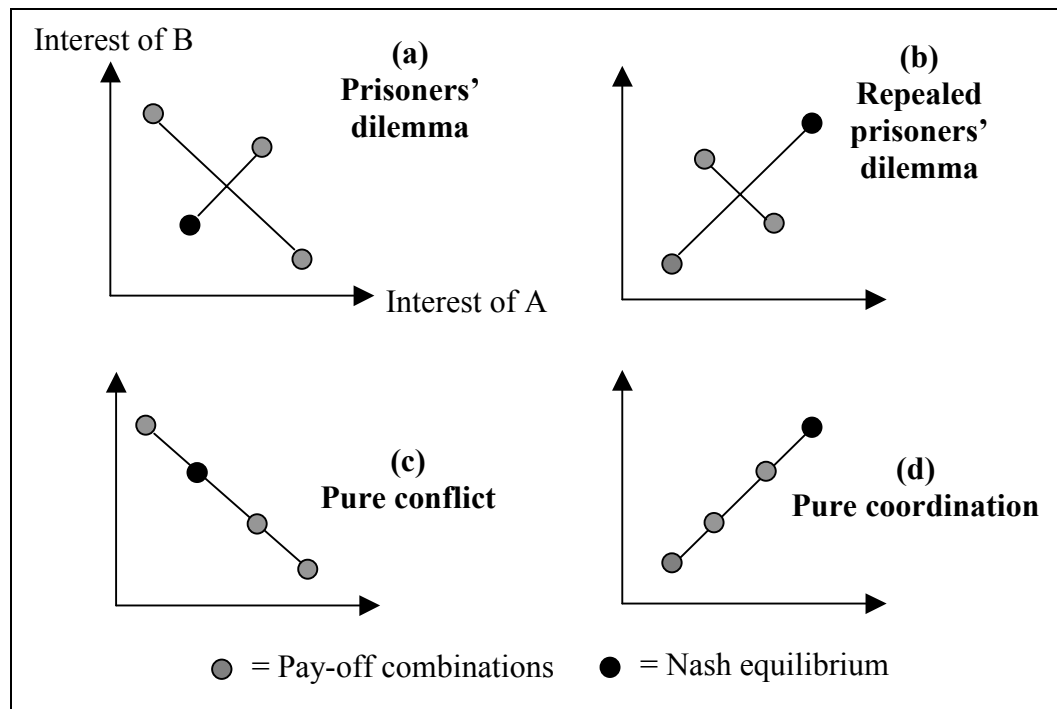


Figure 1: *The systematic place of the social dilemma in strategic interaction*

In this view, any cooperating and likewise any competing interaction is based on an existing or repealed dilemma structure. Except for the limiting cases of pure conflict or pure harmony, cooperation and competition are both characterised by the simultaneity of common and conflicting interests. They differ only with regard to the dominating interest.³¹

Ad (2): Following RAWLS³², society should be conceptualised as a “cooperative venture for mutual advantage”, that is “a public system of rules defining a scheme of activities that leads men to act together so as to produce a greater sum of benefits.” In terms of our approach, good societal rules allow the acquisition of mutual gains from cooperation. This does not mean, however, that in all games played in society the cooperative solution is always the desirable one. Collusion of particularised interest groups may well be to the detriment of third parties and therefore not in the interest of society at large. The formation of cartels is a prime example for the social *undesirability* of cooperation in social dilemma situations.³³ However, this is *subordinate* to the goal of achieving gains from trade with actors on the other side of the market. It is thus necessary to apply the social dilemma model in a sufficiently differentiated way. We hold it to be a major strength of our approach that it indeed allows to shed new light on the role of competition as a key institutional arrangement for social cooperation. Market competition suggests a situation of conflict between rivals, but it also offers the opportunity to engage in mutually advantageous exchange with a third party. To acquire this advantage, individuals will be willing to expose themselves to the pressure of competition, provided that others are forced to do so as well. There is an incentive to form a cartel to escape competitive pressure. However, this would imply that gains from cooperation with the other market side cannot be acquired. Market participants can therefore agree to a rule that prevents the establishment of cartels. Thus, market competition is an example where conflict and the establishment of a social dilemma situation is *desirable* to achieve a common

³¹ Pies (2001; pp. 182-184).

³² Rawls (1999; p. 74).

³³ Nalebuff (1998; p. 90).

societal goal.³⁴ Undermining collusion (first-order cooperation) is hence regarded as a way of conflict resolution that can be used to achieve gains from trade (second-order or meta-cooperation).

The social dilemma as a structure is thus normatively ambivalent. The undesirability of cooperation in the dilemma can emerge as soon as the group of players immediately *involved* is not identical with the group of individuals *affected* by this game. It is here where the shift of the consensus criterion to the sub-constitutional level requires a careful analysis of who bears the effects of reform. This illustrates the general principle that the relevant criterion for evaluation is the consensus of *all affected* individuals

3.3 Implications for Public Policy Advice

In this section we wish to show how the heuristic of the social dilemma can facilitate a constructive role of institutional economists in giving public policy advice. The essential insight of the social dilemma heuristic for policy discourse is that it allows to see the common interest in situations that are apparently characterised by pure conflict. Very often, these conflicts are dominated by controversial value judgements. Examples include the dualisms of liberty versus social justice, capital versus labour, or profit maximisation versus social responsibility. In these apparent value trade-offs, our approach can serve as a grammar of argumentation, as a structuring aid that allows to rationalise political discourse. In particular, it can be used for the systematic derivation of *orthogonal positions* in value-loaded policy debates of the democratic public. An orthogonal position means not to take side within such a trade-off but to help overcome the very trade-off. This is an important point that needs further clarification.

One of the basic problems of scientific policy advice is that the advisor must avoid a positioning *within* the value trade-off, because advice will then necessarily result in a controversial value judgement which is in conflict with one or the other position under dispute.³⁵ Corresponding to the analysis of strategic interaction in the previous section, this value trade-off is displayed by the decreasing line of the prisoners' dilemma in Figure 2 (a).

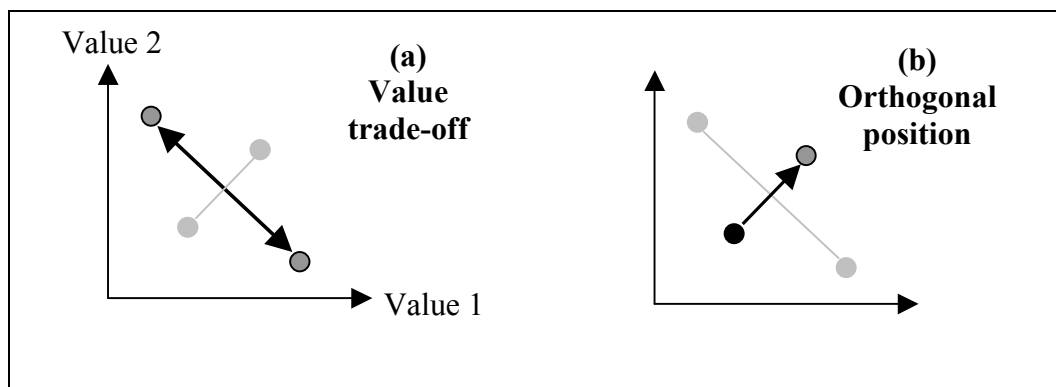


Figure 2: *Value trade-off and orthogonal position in the prisoners' dilemma*

³⁴ see Pies (2001; pp. 155-176). The prisoners' dilemma may also be an efficient institution for forcing prisoners to confess, and thus find the assent of society at large, Buchanan (1984; p. 15).

³⁵ Pies (2001; pp. 219-225).

One possible approach to deal with this value trade-off is based on welfare economic reasoning and models the group of addressees of policy advice as a collective which has a higher common goal, the overall social welfare. The evaluation of this higher goal in terms of a social welfare function is structurally identical to a single homo economicus. The fundamental difficulty of this approach is that the actual conflict of interest is not solved. At best, it is concealed by the social definition of welfare. As a result, the generated recommendations do not answer the question why addressees should sacrifice individual goals for collective goals.

In the social dilemma heuristic proposed here, advice is sought orthogonally *to*, not as a compromise *in* the conflict. This is denoted by the increasing arrow in Figure 2 (b). It requires that the conflicting positions are not taken at face value. To the contrary, the one-dimensional perception of the conflict is extended into a two-dimensional perception, which allows to identify a common interest apart from the dominating conflicting interest. By referring to situational win-win constellations, common and conflicting interests can be simultaneously charged and can be located on different levels. Key is the difference between moves in the game and rules of the game, or between actions and conditions for actions. The conflict of actors' interest in the game constitutes the common interest in a change of rules to achieve a more productive game. Hence, not higher goals, but common goals are sought. The common goals are not related to individual action but to the rules that coordinate individual action. Based on an alternative set of rules, the Pareto-superior outcome is identified and the perception of a fixed-sum game is transformed into a perception of a positive-sum game, which implies a move from Figure 2 (a) to Figure 2 (b).

In summary, the argumentation scheme of a social dilemma identifies a Pareto-inferior Nash equilibrium as the Archimedean point for rationalising public discourse. The lever of advising arguments is not placed – via a concept of social welfare – in abstract Nirvana, but – via incentive analysis – in the status quo. Departing from a conflict that results from actual behaviour guided by situational incentives, we seek to approach rules that improve the incentives to act. Thus, common rule interests are the goal from which orthogonal positions in public value conflicts are derived and political discourse can be rationalised.

4. Illustrative Applications

4.1 Rural Credit Markets in Developing Countries³⁶

Poor households often remain poor because they do not have access to income-enhancing resources. Policy makers have therefore paid much attention to rural financial markets in developing countries, which are typically characterised by a dual structure of both *formal* banks and a dense network of *informal* institutions and arrangements, including interlinkages between credit and product markets, informal credit associations, village moneylenders, and regionally segmented markets. Rural credit markets are thus a prime example of the economic relevance of complex institutional arrangements. In the following we take the problem as a case to demonstrate how our approach can be used to analyse and evaluate these arrangements in order to derive policy recommendations.

³⁶ This is the excerpt of a broader application to rural development problems given in Petrick (2004a).

At the outset, it is instructive to note that until the mid 1980s, in many developing countries rural credit policy was dominated by the view that informal finance was something evil that should be suppressed and replaced by (governmentally-promoted) formal lending institutions. In the centre of the critique were the ‘usurious moneylender’ and his monopolistic power. Behind this view was the simplistic notion that credit markets function the same way as markets for chairs and tables and that all that mattered was the infusion of additional, often subsidised funds into rural areas. This policy grossly failed and informal finance continued to be an important source of funds for households that were rationed by formal lenders.

As a consequence, the question which policy recommendations can be given to overcome credit rationing has been posed anew. Most of the current literature either shies away from a theoretically founded answer to this question or clings to traditional welfare economic reasoning.³⁷ But how far does this reasoning take? At about the same time when failure of the above policies became evident, economists started to develop a new understanding of the complex nature of institutional arrangements on rural credit markets. A central feature of this more recent credit market literature is the assumption of an *asymmetric distribution of information* between market participants. Asymmetric information may lead to a substantial misallocation on credit markets, including an equilibrium excess demand for credit.³⁸ The typical welfare economic response to such problems of market failure is to consider a *tax scheme* that restores first-best efficiency. This is considered by DE MEZA AND WEBB³⁹, who shows that, in the case of credit rationing, a *subsidy* on interest rates may restore the first-best outcome under full information. However, they also show that this result is extremely sensitive to the distributional assumptions of the model. Given only relatively minor changes in assumptions, rationing may disappear, the result of *underinvestment* is turned into one of *overinvestment* compared to the first-best level, so that a *tax* on interest rates would be needed to restore efficiency. In subsequent work it has been shown that another slight modification of the model may result into the coexistence of credit rationing and overinvestment.⁴⁰ It is intuitively clear that, under these circumstances, government intervention aimed at encouraging lending to credit-rationed borrowers makes little sense if efficiency shall be restored.

It can thus be concluded that welfare economic concepts such as ‘market failure’ or ‘constrained efficiency’ are of little value for policy formation unless the need for *institutional policy* is explicitly recognised. However, abstract first-best conditions give little guidance how this institutional policy should look like. From our point of view, *it is here where appropriate heuristics and theoretical categories are missing*.

The alternative approach advocated in this paper is to reconstruct the credit rationing problem not as an *allocation* but an *interaction* problem. In this respect, a helpful classification of the problems of asymmetric information is according to the sequence of actions of *principal* and *agent*: the lender as the principal must (a) ascertain what kind of a risk the potential borrower is (the problem of *adverse selection*), (b) make sure she will utilise the loan properly, once made, so that she will be able to repay it (*moral hazard*), (c) learn how her project really did in case she declares her inability to repay (*costly state verification*), and (d) find methods to force the borrower to repay the loan if she is reluctant to do so (*enforcement*).⁴¹ All cases subject the lender to the danger of being exploited by the borrower, unless institutional

³⁷ Petrick (2004b).

³⁸ Stiglitz and Weiss (1981).

³⁹ de Meza and Webb (1987).

⁴⁰ de Meza and Webb (2000).

⁴¹ Ghatak and Guinnane (1999; p. 1977).

arrangements are in place that counteract this danger. In a general view, the problem can be stated as a *one-sided prisoners' dilemma*.⁴² Under the assumption that the borrower behaves opportunistically and defaults after he got the loan, the lender will not be willing to extend a loan, so that the strategy combination (default, refuse) is the Nash equilibrium. The productive transaction simply does not take place (Figure 3).⁴³

		Lender	
		<i>refuse</i>	<i>grant</i>
Borrower	<i>repay</i>	0 , 0	1 , 1
	<i>default</i>	0 , 0	2 , -2

Figure 3: *Interaction on credit markets as a one-sided prisoners' dilemma*

As in the two-sided prisoners' dilemma, actors fail to acquire gains from cooperation and remain in a Pareto-inferior equilibrium. The institutional design is therefore unsatisfactory for *both* of the affected parties, and the central question emerges whether there are institutional alternatives that, compared with the status-quo, allow an improvement for both players.

To overcome the dilemma, the new rules must lead to a reduction of the borrower's pay-off for default below the level of the non-default pay-off. An alternative contracting scheme to the one illustrated in Figure 3, quite common in the developed world, involves the pledge of *collateral* on the side of the borrower, which can be interpreted as a form of self-bonding of the borrower. Collateral provides an incentive for the borrower to repay the loan and signals his credit-worthiness to the lender. If collateral is used in order to eliminate the default of borrowers, credit rationing will disappear.⁴⁴ Compared to the alternative to get no credit at all, borrowers will agree to this arrangement. However, this element *discriminates against* those who are unable to provide sufficient suitable assets, a case of particular relevance for developing countries.

The interaction approach also allows a differentiated normative assessment of existing *informal* arrangements in developing countries, and it is precisely here where alternatives to Western types of collateral can be found. This is not the place to develop detailed policy recommendations on rural credit, which surely have to be based on a careful study of local circumstances. We rather wish to stress possible options which a normative approach based on dilemma structures can accommodate. One example is the formation of *groups of borrowers* who are jointly liable and thus have an incentive to monitor each other.⁴⁵ The default option for the borrower is punished by peer pressure, which is particularly effective due to the social proximity of the group. A second example is where credit exchange is *tied to*

⁴² Rasmusen (2001, pp. 117-119).

⁴³ The game is one-sided or asymmetric because the lender really does prefer the strategy combination (non-refuse, non-default) to the other outcomes. He refuses defensively, because he expects that his cooperative behaviour will be exploited, but not offensively, because he can win nothing from refusing the loan.

⁴⁴ Coco (2000).

⁴⁵ Ghatak and Guinnane (1999).

other types of transactions, the above-mentioned interlinkage. The most well-known is trade credit. Giving credit to trade partners makes private information about business activities available to the lender at little cost. Screening and monitoring of potential borrowers may thus be greatly facilitated. Furthermore, enforcement of loan repayment may be easy by simply deducting it from the goods sold to or through the lender.⁴⁶ These insights have induced a revision of thinking about rural credit markets. It is increasingly acknowledged that *institutional reforms* do matter for financial development, in contrast to additional funds or preferential interest rates.⁴⁷ Formal banks and informal credit arrangements are no longer seen as stereotype antagonisms. The current trend is rather to learn from informal arrangements how mutually beneficial exchange can be achieved, and that linkages between both should be established rather than destroyed. Microfinance institutions such as the Grameen Bank in Bangladesh or the Unit Desas of the Bank Rakyat Indonesia demonstrate that innovative lending technologies can reach poor customers. The much-maligned moneylender is reconstructed as an important emergency source of funds, because his unique knowledge of the borrower prevents default and thus allows mutually beneficial exchange that no other institution could possibly accomplish.⁴⁸

4.2 Institutional Reform on Labour Markets to Fight Unemployment in Europe⁴⁹

In the public debate on the reasons for persistent unemployment in many European countries, two dominating views can be identified.⁵⁰ The first view links the problem to the design of social security systems. It supposes that unemployed have *no will* to actively search a job, because social benefits provide a sufficient financial cushion to do without permanent employment. The second view sees the problem in the institutional arrangements of wage settlement, according to which unemployed *cannot* find a job because they face a cartel of incumbents whose collective negotiation outcomes are to the detriment of the jobless.

Both views have in common that they consider unemployment as the result of inappropriate behaviour of a large societal group. In the first view, transfer beneficiaries exploit the paying incumbents, whereas in the second view insider-employees exploit the outsider-unemployed. Moreover, leading theories of unemployment provide support for both views. With regard to the first view, liberal economists tend to emphasise the adverse incentive effects of state-administered unemployment benefits on job searchers and the allocative inefficiency introduced by all kinds of redistributive schemes. With regard to the second view, the ‘insider-outsider theory’ provides an explanation for the absence of wage underbidding even when many unemployed workers (the outsiders) are willing to accept wages lower than the existing insider wages.⁵¹ It rationalises the existence of unions as an institutional arrangement that lobbies for high turnover costs and in this way secures the rents of insiders at the expense of outsiders. Its central focus is hence the *conflict of interest* between incumbent employees versus unemployed. Advocates of the insider-outsider theory encourage reforms that make outsiders better off at the cost of insiders.⁵²

⁴⁶ Bell (1988).

⁴⁷ Krahnen and Schmidt (1994).

⁴⁸ Adams (1992).

⁴⁹ For a detailed exposition see Pies (2000, chapter 3).

⁵⁰ Pies (2000).

⁵¹ Lindbeck and Snower (1988, 2001).

⁵² Lindbeck and Snower (1988; pp. 261-262) do not have any illusions concerning the political difficulties of implementing such proposals: “It is important, though obvious, to note that power-reducing policies are usually

Both types of analyses fuel value-loaded argumentation patterns which either, in the name of liberty (of tax- and fee-payers), call for less redistribution, or, in the name of justice, call for better employment opportunities for the jobless. However, reducing the unemployment problem to a pure conflict of interest has the disastrous political implication that common interests are systematically left out of sight and that an extremely pessimistic picture of the potential for constructive policy reform is drawn. In the following we show how a *different theoretical approach* can be used for the systematic derivation of an orthogonal position in a policy debate that is apparently characterised by pure conflict. We reconstruct unemployment not as a one-sided exploitation of the jobless by the transfer payers or the outsiders by the insiders, but as a case of *mutual* exploitation and therefore *collective self-damage*. This approach has two distinctive advantages: First, it can dispense with moral accusations. The focus is not on the inappropriate *behaviour* of individuals or groups, but the inappropriate *incentives* of the institutional arrangement. Second, based on the social dilemma heuristic, it allows the generation of constructive reform proposals, which are out of sight in the pure interest struggle.

We offer the following interaction model of the labour market.⁵³ Unemployment benefit transfers provide the jobless with an alternative to labour income. They can therefore choose to either actively search for a new job or remain inactive (Figure 4(a)). The employees on the other hand have to choose whether or not they want to put upward pressure on wages, for example in the framework of collective wage negotiations. Upward pressure on wages worsens the employment perspectives for the unemployed and thereby increases wage-dependent social contributions or payroll taxes.

(a) Assurance game		(b) Quasi prisoners' dilemma	
Incumbent employees: upward pressure on wages?		Incumbent employees: upward pressure on wages?	
yes no		yes no	
Unemployed: active job search?	yes	yes	yes
no	IV 1 , 3	I 1 , 3	I 3 , 4
	III 2 , 2	II 3 , 1	II 4 , 1
no		no	

Figure 4: *Interaction of unemployed and employed workers on the labour market*

not Pareto-improving. Rather, they tend to raise the outsiders' chances of employment at the cost of reducing the insiders' real wages and job security. Thus, when a government attempts to implement these policies, it is likely to run into all the various social and political difficulties that characteristically arise when there are conflicts of interest over income distribution and vested interest groups are stripped of some power."

⁵³ Pies (2000; chapter 3).

A high labour demand makes job search promising, therefore the unemployed favour cell I to cell II. Only if extreme pressure for wage increases by the employed reduces the probability of getting a job, the unemployed prefer inactiveness and thus cell III to cell IV. Because they favour successful search over long-term unemployment, they rank cell I higher than cell III. If upward pressure on wages increases the probability of being fired, the employed normally have a preference for (only) moderate wage increases, and thus favour cell I over cell IV. Only if increasing payroll taxes and social contributions reduce their net incomes as a result of inactive recipients of unemployment benefit transfers, the employed prefer to exert upward pressure on wages and thus cell III to cell II. However, due to the burden of financing huge unemployment benefits, cell III is assumed to be less attractive for incumbents than cell I.

Cell II in Figure 4(a) characterises the exploitation scenario according to the first view outlined above: although incumbents abstain from excessive wage demands, the unemployed make no efforts to actively search for jobs and live on social transfers. Cell IV, on the other hand, characterises the exploitation scenario according to the second view outlined above: employees negotiate excessive wage increases which make it impossible for the jobless to find adequate employment.

During the 1950s and 60s, when most of the European unemployment benefit systems were functioning well, interaction on the labour market took the form of an *assurance game*. Cells I and III are Nash equilibria. Because both employees and unemployed dislike cell III, it was relatively easy to coordinate on the Pareto-superior outcome of cell I.

Historically, things have changed. Globalisation processes induce a shrinking share of low-wage jobs in the economy and increase human capital requirements for positions in the service sector. Industrial workers who become unemployed may then be caught in a trap because they are relatively well protected by unemployment benefits, whereas it is difficult for them, for example due to lacking qualifications, to immediately get a similarly-paid job in the service sector. If a low paid job in the service sector is the only alternative, it may become a dominant strategy for them to stop active employment search. In the model, the pay-offs for the unemployed in cell I and II change positions, and the game becomes a *quasi prisoners' dilemma* (Figure 4(b)).⁵⁴ Because the unemployed do no longer actively search for jobs, the employees choose a high-wage strategy to secure their net incomes. The only remaining equilibrium is the Pareto-inferior result of cell III.

How can this rationality trap be overcome? Current labour market regulation in Europe runs counter to the aims of an unemployment *insurance*. An effective insurance should seek, as quickly as possible, to bring unemployed workers back into jobs that are at least as highly paid as the former ones. However, most systems pay people when they are unemployed and tax them when they find a job. Workers are not induced to seek employment and firms to hire them, the policy rather discourages them from doing so and thus contributes to unemployment.⁵⁵ Human capital, one of the keys to find a new job, as well as individual self-esteem is eroding quickly under these conditions. A true insurance should enable the creation of specific human capital, which can be done most effectively by 'training on the job'. The general idea is to offer employment-conditional benefits to the unemployed. A detailed

⁵⁴ The quasi prisoners' dilemma is similar to the one-sided prisoners' dilemma in that only one player has a dominant strategy. Both games have a Pareto-inferior Nash equilibrium. However, in Figure 4, incumbent employees are assumed to be not indifferent between cells I and IV, as would be required in a strict one-sided prisoners' dilemma.

⁵⁵ Snower (1997; p. 163).

proposal has been made by SNOWER⁵⁶ who suggests voluntary employment vouchers that do not increase government spending. Another option are time-limited employment subsidies based on temporarily unchanged levels of transfers in the form of a negative income tax⁵⁷, for a detailed discussion of the options see PIES.⁵⁸ Once successfully implemented, the effect of these instruments is that the quasi prisoners' dilemma of Figure 4 is transformed back into an assurance game. Unemployed workers are provided with new incentives to search for jobs, which induce a reduction of the burden of social contributions for the incumbent employees.

This approach allows an *orthogonal position* to the distributional conflict between insiders and outsiders: Both groups have a common rule interest to escape the social dilemma. Not inappropriate behaviour, but inappropriate incentives are addressed. It is not necessary to make transfer-payers better-off at the cost of transfer-recipients or outsiders better-off at the cost of insiders. Both groups can gain if the unemployed are rewarded for their socially desired activities. Moreover, unions are not called to disregard the interests of their members. Reforms are rather sought that allow unions to represent the interests of their clientele in a better way than hitherto possible.

4.3 Lessons for the design of a normative institutional economics

Both examples show how inadequate policy action is systematically linked to an inadequate problem perception in public discourse. Economic theory fails to correct this perception if it is based on an inappropriate definition of social welfare that neglects individual assent to reform and if it entails implicit or explicit moral accusations. However, institutional economists can usefully contribute to a rational public discourse if they reconstruct problems as collective self-damage, thereby identify common rule interests of the affected parties, and propose institutional reforms that lead to Pareto-superior outcomes.

5. Conclusions

Based on considerations of the constitutional economics literature, we have proposed to regard normative economics as the study of human *interaction*. Central to this approach is the search for (changes in) rules that allow the interacting individuals to secure gains from cooperation. The assent of the affected actors is required to legitimise and successfully implement reform. We use the notion of a social dilemma as a basic tool for the analysis of economic interaction because it captures the tension between common and conflicting interests in institutions in a straightforward way. Building on normative individualism, it conforms with freedom from value and is compatible with democracy. Furthermore, it serves the awareness of the common interest, helps to detect the scope for improvement of all involved parties, and suggests institutional reforms which possibly accomplish mutual gains. We have shown how it provides a relatively simple but flexible heuristic for the analysis and evaluation of institutional arrangements and the derivation of orthogonal positions in value-loaded policy debates. In this way it has the potential to make insights of the established positive institutional economics literature amenable to public policy making.

⁵⁶ Snower (1997).

⁵⁷ Spermann (1999).

⁵⁸ Pies (2000).

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